
Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: markspencer

Timestamp: [year=2008; month=1; day=11; hr=15; min=22; sec=5; ms=373;]

Validated By CRFValidator v 1.0.3

Application No: 10552192 Version No: 1.0

Input Set:

Output Set:

Started: 2007-12-18 17:58:55.414 **Finished:** 2007-12-18 17:58:55.712

Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 298 ms

Total Warnings: 0

Total Errors: 0

No. of SeqIDs Defined: 29
Actual SeqID Count: 29

<110)>	Vega	a MAS	SIGNA	ZNI										
<120)>	ADP-	-RIBO	OSYLĀ	ATINO	G TO	KIN I	FROM	LIST	ΓERI <i>I</i>	A MOI	NOCY:	rogei	NES	
<130)>	PP02	20009	9.000	03										
<140	<140> 10552192														
				18											
<141> 2007-12-18															
<150> PCT/IB2004/001440															
			-04-0												
<150> GB0308198.1															
<151	L >	∠00.	3-04-	-09											
<160)>	29													
<170)>	Seq	Win99	9, ve	ersio	on 1	.02								
<210)>	1													
<211	L>	604													
<212	2>	PRT													
<213	3>	List	ceria	a mor	nocyt	oger	nes								
< 400)>	1													
Met	Lys	Glu	Val	Asn	Tyr	Arg	Glu	Asp	Asp	Trp	Arq	Glu	Ala	Lys	Ser
1	_			5	_	_		_	10	_	_			15	
Ala	Leu	Ala	Pro	Phe	Ala	Ala	Ala	Asn	Trp	Val	Glv	Glv	Leu	Phe	Asn
			20					25	-		_	_	30		
Asn	Leu	Glu	Lvs	Val	Ser	Lvs	Asn	Met	Glu	Glu	Ala	Glu	Glu	Asp	Val
		35					40					45		1	
		00					10								
Gln	Glu	T OII	Asn	Sar	Asp	шіс	Δla	т10	Sar	Dho	Gln	ніс	Thr	Asn	Tur
GIII		цец	дър	Set	дър		лта	116	Set	riie		1115	1111	ASII	тут
	50					55					60				
_	6 1	-			- 1	- 1	6 1	_	-	_	N	7	-		-
	GIY	ьуѕ	Tyr	ser	Ala	TTE	GIU	Asp	Asp		мет	vai	Leu	Tyr	
65					70					75					80
Phe	Ser	CAa	His	Ala	Gly	Glu	Lys	Met	Glu	Thr	Leu	Val	Asp	Gln	Pro
				85					90					95	
Phe	Tyr	Glu	Lys	Leu	Asp	Ala	Phe	Val	Asp	Gly	Met	Gln	Asp	Leu	Ser
			100					105					110		
Ile	Ser	Thr	Tyr	Ser	Thr	Thr	Asn	Arq	Ile	Gly	Ala	Lys	Ser	Lys	Gln
		115	_				120	_		_		125		_	
												_ =			
Thr	Тиг	Thr	Thr	Thr	Ser	G1 17	G1 17	Sar	Gln	√21	T 1 $^{\circ}$	Glu	Sar	Tla	T.v.e
T 11T	_	T11T	T11T	T11T	DGT	_	СтУ	Det	OTII	val		oru	DET	+ + C	тур
	130					135					140				
G.	G ?	7 . 7	m1	+ 3	G 3	73	-	n.r. :	7	a.	3	3	D.I	m-	a 7
	σтλ	АІА	ınr	тте	Glu	Asp	ьeu	Met	ASN	_	Asp	ASN	rne	ıуr	
145					150					155					160

Asn	Gln	Met	Gln	Leu 165	Gln	Tyr	Arg	Asp	Trp 170	Gln	Arg	Ala	Asn	Pro 175	Asp
Gln	Asp	Val	Ser 180	Lys	Lys	Asp	Phe	Gln 185	Met	Gly	Met	Leu	His 190	Ser	Arg
Ala	Phe	Glu 195	Tyr	Lys	Ser	Ile	Lys 200	Asp	Glu	Gln	Gln	Glu 205	Lys	Glu	Phe
Trp	Val 210	Asn	Ile	Val	Ala	Thr 215	Val	Val	Ile	Val	Gly 220	Val	Ser	Ile	Phe
Cys 225	Pro	Pro	Ala	Gly	Leu 230	Ala	Leu	Ala	Val	Gly 235	Tyr	Gly	Ser	Leu	Glu 240
Ala	Gly	Ser	Ala	Ile 245	Ser	Gly	Lys	Asp	Trp 250	Val	Ser	Gly	Arg	Glu 255	Leu
Ser	Thr	Glu	Glu 260	Arg	Ala	Leu	Arg	Gly 265	Gly	Leu	Ala	Leu	Leu 270	Asp	Ile
Val	Pro	Gly 275	Val	Lys	Ala	Leu	Ser 280	Thr	Gly	Ala	Lys	Ala 285	Ala	Ser	Ala
Gly	Ser 290	Lys	Leu	Val	Arg	Val 295	Gly	Asp	Asn	Val	Leu 300	Ala	Gly	Ser	Lys
Asn 305	Val	Gly	Lys	Gly	Thr 310	Ile	Asp	Asn	Gly	Ile 315	Gln	Ala	Gly	Lys	Gln 320
Ala	Met	Asp	Leu	Arg 325	Leu	Ala	Asn	Ala	Lys 330	Lys	Val	Ser	Glu	Ala 335	Val
Gln	Lys	Lys	Leu 340	Thr	Lys	Asp	Leu	Asp 345	Asp	Ile	Gly	Thr	Met 350	Ala	Lys
Thr	Ile	Gln 355	Asn	Lys	Thr	Lys	Glu 360	Thr	Phe	Thr	Leu	Pro 365	Pro	Arg	Glu
Gln	Leu 370	Ala	Phe	Ala	Arg	Gly 375	Gly	Ser	Ile	Pro	Glu 380	Gln	Ser	Ala	Thr
Gly 385	Ala	Ala	Ala	Ile	Ala 390	Ala	Lys	Lys	Lys	Leu 395	Lys	Asp	Ile	Met	Gln 400
Asn	Met	Asp	Asn	Leu 405	Asn	Val	Lys	Gly	Gly 410	Gly	Lys	Asp	Asp	Ile 415	Ile
Glu	Gln	Asn	Lys 420	Ser	Leu	Lys	Phe	Thr 425	Ser	Leu	Glu	Glu	Ser 430	Glu	Lys
Trp	Gly	Ile 435	Asp	Gly	Phe	Ser	Val 440	Trp	Arg	Asn	Ser	Leu 445	Ser	Ser	Arg
Glu	Ile 450	Gln	Ala	Ile	Arg	Asp 455	Tyr	Thr	Asp	Ile	Trp 460	His	Tyr	Gly	Asn

Met Asn Gly Tyr Leu Arg Gly Ser Val Glu Lys Leu Ala Pro Asp Asn 465 470 475 480

Ala Glu Arg Ile Lys Asn Leu Ser Ser Ala Leu Glu Lys Ala Glu Leu
485 490 495

Pro Asp Asn Ile Ile Leu Tyr Arg Gly Thr Ser Ser Glu Ile Leu Asp 500 505 510

Asn Phe Leu Asp Leu Lys Asn Leu Asn Tyr Gln Asn Leu Val Gly Lys
515 520 525

Thr Ile Glu Glu Lys Gly Phe Met Ser Thr Thr Thr Ile Ser Asn Gln 530 540

Thr Phe Ser Gly Asn Val Thr Met Lys Ile Asn Ala Pro Lys Gly Ser 545 550 555 560

Lys Gly Ala Tyr Leu Ala His Phe Ser Glu Thr Pro Glu Glu Ala Glu 565 570 575

Val Leu Phe Asn Ile Gly Gln Lys Met Leu Ile Lys Glu Val Thr Glu 580 585 590

Leu Asn Gly Lys Ile Glu Ile Ile Val Asp Leu Leu
595 600

<210> 2

<211> 1815

<212> DNA

<213> Listeria monocytogenes

<400> 2

atgaaagaag tcaactaccg agaagacgac tggcgtgaag ccaaaagtgc cctcgctcca 60 tttgccgcag cgaattgggt aggcggttta ttcaataatt tagaaaaagt atcgaaaaat 120 atggaagaag cggaagaaga tgtccaagag ttggactcag accacgcgat ttcgtttcaa 180 cacaccaact atcgcgggaa gtacagcgct atcgaagacg atttgatggt attgtataag 240 300 tttagttgtc atgcagggga aaagatggaa accetggtag accaacegtt ctatgagaag ttagacgcgt ttgtggatgg catgcaagat ttgagtattt cgacgtattc taccaccaac 360 cggattggtg cgaagtcgaa acaaacctat acaactacat ctggcggttc gcaagtcatc 420 gagtecatea aagaaggtge gaegategaa gatttgatga atggegataa ettetaegea 480 aaccaaatgc aactacaata cagggactgg caacgagcga atccagatca agatgtgagt 540 600 aagaaagact ttcaaatggg aatgttacat agtcgggcat ttgaatataa atcaattaaa gatgaacaac aagagaaaga attttgggtc aacattgtgg caaccgtggt gattgtggga 660 gtcagtattt tctgcccacc cgccggcctt gccttagccg taggatacgg gagtttagaa 720 gctggttcgg caatcagtgg gaaggactgg gtatctggcc gtgaactaag tacagaagaa 780 cgagcgcttc gtggcggttt agcactgcta gatatcgttc caggtgtgaa agcattgagc 840 acaggagcga aagctgccag tgccggctcg aaacttgtcc gcgtaggcga taatgtttta 900 gcaggtagca agaacgtcgg caaaggaacc atcgacaatg gcattcaagc aggaaaacaa 960 gcgatggatc tccggttagc caatgcgaaa aaagtcagcg aagctgtcca aaagaaactc 1020 accaaagacc ttgacgatat cggcacgatg gccaaaacca tccaaaacaa aaccaaagaa 1080 accttcacac ttccaccgag agagcaactc gcctttgcga gaggaggcag tattccggaa 1140 caaagcgcca ccggagccgc cgcgatagcc gcgaagaaaa agctgaaaga tattatgcag 1200 1260 aacatggata atttgaatgt gaagggcggc gggaaagatg atataattga acaaaataaa agccttaagt ttacttcatt agaggaatcc gagaaatggg gaattgatgg tttttcagta 1320 tggagaaact ctttatcttc tcgtgaaatc caagctatta gggactatac agacatttgg 1380 1440 cattatggaa atatgaatgg ttatttaaga ggaagtgtcg aaaaacttgc cccagataat

attttata aattacca ataagta aaaggtg atagggc	ata gagg aaa attt atc aaac cat atct	aactag tagttgg ggttctc aagctca t	tctgaaat aaaacaat ggaaacgt tttagtga	t ttggaa a ttggat t gaagaa t acaatg a acacct	aact aaag aaaa gaag	ttcttq gattta tcaacq aagcaq	gattt atgag gctcc gaggt	aaaga tacaa taaaq attgt	aattta actacc ggtagc ttaat	1500 1560 1620 1680 1740 1800 1815	
<210> <211> <212> <213>	3 309 PRT Listeri	a innocu	a								
<400> Met Lys 1	3 Glu Val	Asn Tyr 5	Arg Glu	ı Asp Asp 10	Trp	Arg G	lu Ala	Lys 15	Ser		
Ala Leu	Ala Pro	Phe Ala	. Ala Ala	Asn Trp 25	Val	Gly G	ly Leu 30	Phe	Asn		
Asn Leu	Glu Lys 35	Val Ser	Lys Asn 40	ı Met Glu	Glu	Ala Gl		Asp	Ile		
Gln Glu 50	Leu Asp	Ser Asp	Arg Ala	ı Ile Ser	Phe	Gln H:	is Thr	Asn	Tyr		
Arg Gly 65	Lys Tyr	Ser Ala	. Ile Glu	ı Asp Asp	Leu 75	Met Va	al Leu	Tyr	Lys 80		
Phe Ser	Cys His	Ala Gly 85	Glu Lys	: Met Glu 90	Thr	Leu Va	al Asp	Gln 95	Pro		
Phe Tyr	Glu Lys 100	-	Ala Phe	val Asp	Gly	Met G	ln Asp 110	Leu	Ser		
Ile Ser	Thr Tyr	Ser Thr	Thr Asr	a Arg Ile	: Gly	_	ys Ser 25	Lys	Gln		
Thr Tyr 130	Met Ser	Ser Tyr	Gly Asn 135	ı Gln Pro	Gln	Val II 140	le Glu	Ser	Val		
Lys Asp 145	Asn Ala	Thr Ile	-) Leu Leu	155	Gly As	sp Asn	Phe	Tyr 160		
Ala Asn	Gln Met	Gln Leu 165	Gln Tyr	Arg Asp	_	Gln Ai	rg Ala	Asn 175	Pro		
Asn Gln	Asp Val	-	Lys Asp	Phe Glr 185	Met	Gly M€	et Leu 190	His	Ser		
Arg Val	Phe Glu 195	Tyr Lys	Ser Ile 200	e Lys Asp	Glu		ln Glu 05	Lys	Glu		
Phe Trp	Val Asn	Ile Val	Ala Thr	Val Val	Ile	Val G	ly Val	Ser	Ile		

210 215 220

```
Phe Cys Pro Pro Ala Gly Leu Ala Leu Ala Val Gly Tyr Gly Ser Leu
                   235
225 230
Glu Ala Gly Ser Ala Ile Ser Gly Lys Asp Trp Val Ser Gly Arg Glu
           245 250
Leu Ser Thr Glu Glu Arg Ala Leu Arg Gly Gly Leu Ala Leu Leu Asp
               265 270
    260
Ile Val Pro Gly Val Lys Ala Leu Ser Thr Gly Ala Lys Ala Ala Ser
     275
             280
Ala Gly Ser Lys Leu Val Arg Val Gly Asp Asn Ile Leu Val Gly Ser
                 295
Lys Asn Val Gly Lys
305
<210> 4
<211> 11
<212> PRT
<213> Escherichia coli
<400> 4
Lys Leu Tyr Arg Ala Asp Ser Arg Pro Pro Asp
1 5 10
<210> 5
<211> 9
<212> PRT
<213> Escherichia coli
<400> 5
Leu Tyr Asp His Ala Arg Gly Thr Gln
1 5
<210> 6
<211> 15
<212> PRT
<213> Escherichia coli
<400> 6
Tyr Asp Asp Gly Tyr Val Ser Thr Ser Leu Ser Leu Arg Ser Ala
1 5
                   10
<210> 7
<211> 15
<212> PRT
<213> Escherichia coli
<400> 7
Ser Pro His Pro Tyr Glu Gln Glu Val Ser Ala Leu Gly Gly Ile
                   10
<210> 8
<211> 11
```

<212> PRT

```
<213> Neisseria meningitidis
<400> 8
Phe Leu Tyr Arg Gly Ile Ser Cys Gln Gln Asp
   5
<210> 9
<211> 9
<212> PRT
<213> Neisseria meningitidis
<400> 9
Val Tyr Ala His Gln Ile Glu Thr Gly
<210> 10
<211> 15
     PRT
<212>
<213> Neisseria meningitidis
<400> 10
Tyr Asp Gly Cys Tyr Ile Ser Thr Thr Thr Asp Lys Glu Ile Ala
      5
                     10
<210>
     11
<211> 15
<212> PRT
<213> Neisseria meningitidis
<400> 11
Pro Glu Asn Pro Asn Glu Lys Glu Val Thr Ile Arg Ala Glu Asp
            5
                              10
<210> 12
<211>
     52
<212>
     PRT
<213> Streptomyces coelicolor
<400> 12
Thr Leu Tyr Arg Ser Asp Ser Arg Gly Pro Gln Val Val Phe Glu Glu
1 5 10
Gly Phe His Ala Lys Asp Val Gln Asn Gly Gln Tyr Asp Val Glu Lys
         20
                          25
Tyr Val Leu Val Asn Gln Pro Ser Pro Tyr Val Ser Thr Ser Tyr Asp
      35
                        40
His Asp Leu Tyr
  50
<210>
      13
<211> 15
<212>
     PRT
<213>
     Streptomyces coelicolor
<400> 13
```

```
His Lys Trp Ala Asp Gln Val Glu Val Ala Phe Pro Gly Gly Ile
                                 10
<210>
       14
<211>
       11
<212>
      PRT
<213>
     Mycoplasma pneumoniae
<400> 14
Phe Val Tyr Arg Val Asp Leu Arg Ser Pro Glu
              5
                                 10
<210>
       15
<211>
<212>
      PRT
<213> Mycoplasma pneumoniae
<400> 15
Phe Phe Glu His Ile Leu Ser Thr Asn
<210> 16
<211>
     15
<212> PRT
<213>
      Mycoplasma pneumoniae
<400> 16
Gly Arg Ser Tyr Phe Ile Ser Thr Ser Glu Thr Pro Thr Ala Ala
<210>
       17
<211>
       15
<212>
     PRT
<213>
      Mycoplasma pneumoniae
<400>
Thr Ser Phe Ala Tyr Gln Arg Glu Trp Phe Thr Asp Gly Pro Ile
             5
                                 10
<210>
       18
<211>
       11
<212>
      PRT
<213> Salmonella typhi
<400>
Phe Val Tyr Arg Val Asp Ser Thr Pro Pro Asp
       5
<210>
       19
<211>
       15
<212>
<213>
      Salmonella typhi
<400> 19
Ser Cys Ser Gly Gly Ser Ser Asp Ser Arg Tyr Ile Ala Thr Thr
               5
                                  10
```

```
<210> 20
     15
<211>
<212> PRT
<213> Salmonella typhi
<400> 20
Thr Met Met Arg Leu Gln Arg Glu Tyr Val Ser Thr Leu Ser Ile
                              10
<210>
     21
<211>
      11
<212>
     PRT
<213> Salmonella paratyphi
<400> 21
Phe Val Tyr Arg Val Asp Ser Thr Pro Pro Asp
    5
                    10
<210>
     22
<211>
     15
<212> PRT
<213> Salmonella paratyphi
<400> 22
Ser Cys Ser Gly Gly Ser Ser Asp Ser Arg Tyr Ile Ala Thr Thr
            5
                              10
<210> 23
<211>
      15
<212>
     PRT
<213> Salmonella paratyphi
<400> 23
Thr Met Met Arg Leu Gln Arg Glu Tyr Val Ser Thr Leu Ser Ile
1 5
                    10
<210> 24
<211> 11
<212>
     PRT
<213> Streptococcus pyogenes
<400> 24
Val Val Tyr Arg Tyr Val Tyr Glu Thr Phe Leu
<210> 25
<211> 15
<212> PRT
<213> Streptococcus pyogenes
Thr Lys His Ser Phe Met Ser Thr Thr Ala Leu Lys Asn Gly Ala
            5
                         10
<210> 26
```

<211> 15

```
<212> PRT
<213> Streptococcus pyogenes
Ser Ala Val Pro Ser Glu Val Glu Leu Leu Phe Pro Arg Gly Cys
             5
                              10
<210> 27
<211> 11
<212> PRT
<213> Listeria monocytogenes
<400> 27
Ile Leu Tyr Arg Gly Thr Ser Ser Glu Ile Leu
   5
<210> 28
<211> 15
<212> PRT
<213> Listeria monocytogenes
<400> 28
Glu Glu Lys Gly Phe Met Ser Thr Thr Thr Ile Ser Asn Gln Thr
             5
                          10
                                            15
<210> 29
<211> 15
<212> PRT
<213> Listeria monocytogenes
<400> 29
Ser Glu Thr Pro Glu Glu Ala Glu Val Leu Phe Asn Ile Gly Gln
                               10
```